Complete Summary

GUIDELINE TITLE

Guidelines for colonoscopy surveillance after polypectomy: A consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society.

BIBLIOGRAPHIC SOURCE(S)

Winawer SJ, Zauber AG, Fletcher RH, Stillman JS, O'Brien MJ, Levin B, Smith RA, Lieberman DA, Burt RW, Levin TR, Bond JH, Brooks D, Byers T, Hyman N, Kirk L, Thorson A, Simmang C, Johnson D, Rex DK. Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society. CA Cancer J Clin 2006 May-Jun;56(3):143-59. [83 references] PubMed

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Colorectal cancer

GUIDELINE CATEGORY

Diagnosis
Prevention
Risk Assessment
Screening

CLINICAL SPECIALTY

Colon and Rectal Surgery
Family Practice
Gastroenterology
Geriatrics
Internal Medicine
Oncology
Preventive Medicine

INTENDED USERS

Health Care Providers
Health Plans
Hospitals
Managed Care Organizations
Nurses
Physician Assistants
Physicians
Public Health Departments

GUIDELINE OBJECTIVE(S)

To identify predictors of subsequent advanced adenomas and cancers to stratify patients into lower- and higher-risk groups

TARGET POPULATION

Asymptomatic people with adenomatous polyps detected by colorectal screening

INTERVENTIONS AND PRACTICES CONSIDERED

Colonoscopy surveillance, including consideration of:

- Intervals based on risk assessment
- Discontinuation of colonoscopy surveillance
- Fecal occult blood testing (considered but not recommended)

MAJOR OUTCOMES CONSIDERED

- Quality of colonoscopy
- Characteristics of baseline adenomas (multiplicity, size, histology, high-grade dysplasia, location)
- Completeness of polypectomy
- Development of subsequent advanced adenomas and cancers

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

A Medline search of the postpolypectomy literature was performed under the subject headings *colonoscopy* and *adenoma*, *polypectomy surveillance*, and *adenoma surveillance*, limited to English language from 1990 to 2005. This search identified 35 articles based on inclusion of data pertaining to baseline colonoscopy characteristics, advanced adenoma detection during follow-up surveillance, and advanced adenoma characteristics. Subsequently, the Task Force identified 12 additional articles from references of reviewed articles. Of these 47 articles, 13 were considered to be relevant studies according to the following criteria: 1) colonoscopy studies specifically addressing the relationship between baseline examination findings and detection of advanced adenoma or of any adenoma during follow-up colonoscopy; or 2) sigmoidoscopy studies, with large cohorts and follow up greater than 10 years, specifically addressing the association between baseline examination findings and detection of advanced adenomas during follow up. After the initial review of published data, one relevant abstract and a newly published article were added to the review. These were studies that were identified by members of the guideline committee and for which the data were available to the committee. We excluded studies that included patients with inflammatory bowel disease, prior history of colorectal cancer, and familial syndromes.

NUMBER OF SOURCE DOCUMENTS

The final review was based on 15 studies that met the inclusion criteria.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Committee)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

An evidence table (accessible at http://caonline.amcancersoc.org/content/vol56/issue3/) was organized to include the elements of study design. Ideally, the best study design would fulfill the following criteria: (1) be a randomized controlled trial or an observational cohort study of patients with adenoma(s) at baseline that were cleared by colonoscopy, after excluding people at high risk (such as familial syndromes); (2) consider all

the candidate risk factors; (3) have sufficient follow-up time for adenomas to develop, with few dropouts; (4) have planned colonoscopic assessment for recurrence in all patients in the cohort; (5) have enough outcome events for reasonable statistical precision and sufficient statistical power to detect associations between baseline characteristics and adenoma outcomes; and (6) present the analyses that include adjustment for multiple risk factors and consider what the independent effects are.

The evidence table includes classification of the type of design (randomized controlled trials [RCTs] or observational cohort studies), the number at risk, the follow-up intervals recommended, and the time followed. The guideline developers also list the variables considered as risk factors and the effect of these factors on incidence of subsequent adenomas or on advanced neoplasia. The multivariate estimate of the relative risk is presented whenever available. The definition of an advanced neoplasia is given for each study and varies considerably by study. Summary comments on each study are also included.

Review of the evidence was confounded by variations in definitions, design of studies, timing and multiplicity of surveillance intervals, and quality of baseline colonoscopy. Due to these variations, the review of the literature cited was descriptive rather than a single summary value of risk (i.e., meta-analysis) for all studies. The literature cited is grouped by type of study design: (1) RCTs, where the surveillance interval is set and maintained as much as possible though eligibility requirements may vary; or (2) observational cohort studies, which are primarily registry studies with more passive recruitment for surveillance. The RCTs provide stronger evidence for the timing of follow-up examinations because those who received surveillance colonoscopy were not a special subset of all enrolled. As noted above, relative risks (RR) or odds ratios (OR) from multivariate analysis were presented in the evidence table whenever available. For two studies, the measure of risk was the standardized incidence ratio (SIR) with adjustment for age and sex rather than a relative risk. In one study, the hazard ratio (HR) is given as the measure of the effect. A descriptive graphical presentation was given with point estimates and confidence intervals for the relative risk for adenomas and advanced neoplasia by baseline adenoma characteristics of multiplicity, size, histology, high-grade dysplasia, and location. These descriptive plots (Figure 1 in the original guideline document) of the measure of the effect for various risk factors provide a summary of the number of studies reporting a measure of effect for a given risk factor and the consistency and magnitude of this factor on adenoma and advanced neoplasia recurrence. The review of evidence assessed the risk factors for adenomas as well as for advanced adenomas, but the discussion concentrated on the factors affecting advanced adenomas. The definition of advanced adenoma differs from study to study. The most encompassing definition included any adenoma $\geq$1.0 cm, any villous component (i.e., nontubular), or high-grade dysplasia, or invasive cancer.

Given the concern in detecting colorectal cancers at surveillance, the number of colorectal cancers detected by time under surveillance is cited whenever these data are included in the published study. Special characteristics of the study population and selection for the cohort were also noted in the evidence tables.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

The literature review was conducted by two independent authors. A third author created the evidence table, which was circulated among members of the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society's Colorectal Cancer Advisory Committee. Recommendations in this report were based on the review of the evidence and the discussions at the combined meeting.

The review of evidence assessed the risk factors for adenomas as well as for advanced adenomas, but the discussion concentrated on the factors affecting advanced adenomas.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Not stated

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Surveillance Recommendations

1. **Patients with small rectal hyperplastic polyps** should be considered to have normal colonoscopies, and therefore the interval before the subsequent colonoscopy should be 10 years. An exception is patients with a hyperplastic polyposis syndrome. They are at increased risk for adenomas and colorectal cancer and need to be identified for more intensive follow up.

2. **Patients with only one or two small (<1 cm) tubular adenomas with only low-grade dysplasia** should have their next follow-up colonoscopy in 5 to 10 years. The precise timing within this interval should be based on other clinical factors (such as prior colonoscopy findings, family history, and the preferences of the patient and judgment of the physician).
3. **Patients with 3 to 10 adenomas, or any adenoma ≥1 cm, or any adenoma with villous features, or high-grade dysplasia** should have their next follow-up colonoscopy in 3 years providing that piecemeal removal has not been done and the adenoma(s) are completely removed. If the follow-up colonoscopy is normal or shows only one or two small tubular adenomas with low-grade dysplasia, then the interval for the subsequent examination should be 5 years.
4. **Patients who have more than 10 adenomas at one examination** should be examined at a shorter (<3 years) interval established by clinical judgment, and the clinician should consider the possibility of an underlying familial syndrome.
5. **Patients with sessile adenomas that are removed piecemeal** should be considered for follow up at short intervals (2 to 6 months) to verify complete removal. Once complete removal has been established, subsequent surveillance needs to be individualized based on the endoscopist's judgment. Completeness of removal should be based on both endoscopic and pathologic assessments.
6. **More intensive surveillance is indicated when the family history may indicate hereditary**

nonpolyposis colorectal cancer.

Additional Surveillance Considerations

1. The present recommendations assume that colonoscopy is complete to the cecum and that bowel preparation is adequate. A repeat examination should be done if the bowel preparation is not adequate before planning a long-term surveillance program.
2. There is clear evidence that the quality of examinations is highly variable. A continuous quality improvement process is critical to the effective application of colonoscopy in colorectal cancer prevention.
3. A repeat examination is warranted if there is a concern that the polyp is incompletely removed, particularly if it shows high-grade dysplasia.
4. Endoscopists should make clear recommendations to primary care physicians about when the next colonoscopy is indicated.
5. Given the evolving nature of guidelines, it is important that physicians and patients should remain in contact so that surveillance recommendations reflect changes in guidelines.
6. Pending further investigation, performance of fecal occult blood test is discouraged in patients undergoing colonoscopic surveillance.
7. Discontinuation of surveillance colonoscopy should be considered in persons with serious comorbidities with less than 10 years of life expectancy, according to the clinician's judgment.
8. Surveillance guidelines are intended for asymptomatic people. New symptoms may need diagnostic workup.
9. The application of evolving technologies such as

chromoendoscopy, magnification endoscopy, narrow-band imaging, and computed tomography colonography are not established for postpolypectomy surveillance at this time.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of evidence is not specifically stated for each recommendation.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Detection and removal of adenomas and prevention of colorectal cancer and advanced neoplasia
- Appropriate use of colonoscopy surveillance, minimizing harms, and potentially having a dramatic impact on shifting available resources from intensive surveillance to screening

POTENTIAL HARMS

Not stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

- These guidelines are intended to be used by clinicians as a guide in their approach to postpolypectomy surveillance, taking into consideration clinical judgment in patient comorbidities, patient preferences, and family history.
- There was insufficient evidence to include family history in the guidelines as a predictor of metachronous advanced adenomas. Clearly, however, family history of colorectal cancer in a close relative does increase the risk of colorectal cancer in other relatives and needs further study in the postpolypectomy setting. Issues such as this must be considered on an individual basis when clinicians are determining appropriate follow-up.
- Risk stratification and recommended follow-up intervals are based on the presumption that a high-quality colonoscopy was performed at baseline. However, variable colonoscopic miss rates for adenomas and cancer have been shown.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness
Staying Healthy

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

Winawer SJ, Zauber AG, Fletcher RH, Stillman JS, O'Brien MJ, Levin B, Smith RA, Lieberman DA, Burt RW, Levin TR, Bond JH, Brooks D, Byers T, Hyman N, Kirk L, Thorson A, Simmang C, Johnson D, Rex DK. Guidelines for colonoscopy surveillance after polypectomy: a consensus update by the US Multi-Society Task Force on Colorectal Cancer and the American Cancer Society. CA Cancer J Clin 2006 May-Jun;56(3):143-59. [83 references] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2006 May

GUIDELINE DEVELOPER(S)

American Cancer Society - Disease Specific Society
American Gastroenterological Association Institute - Medical Specialty Society

SOURCE(S) OF FUNDING

American Cancer Society, American College of Gastroenterology, American Gastroenterological Association, American Society for Gastrointestinal Endoscopy

GUIDELINE COMMITTEE

U.S. Multi-Society Task Force on Colorectal Cancer, American Cancer Society Advisory Group on Colorectal Cancer

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Task Force and Advisory Group Members: Sidney J. Winawer, MD; Ann G. Zauber, PhD; Robert H. Fletcher, MD, MSc; Jonathon S. Stillman, MD; Michael J. O'Brien, MD, MPH; Bernard Levin, MD; Robert A. Smith, PhD; David A. Lieberman, MD; Randall W. Burt, MD; Theodore R. Levin, MD; John H. Bond, MD; Durado Brooks, MD, MPH; Tim Byers, MD, MPH; Neil Hyman, MD; Lynne Kirk, MD; Alan Thorson, MD; Clifford Simmang, MD; David Johnson, MD; Douglas K. Rex, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Cancer Society Web site.

Print copies: Available from the American Cancer Society, 250 Williams St., Suite 600, Atlanta, GA 30303; Web site: www.cancer.org.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This NGC summary was completed by ECRI Institute on February 4, 2008. The information was verified by the guideline developer on February 29, 2008.

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